REMARKS/ARGUMENTS

The claims are 1-15 and 17. Claims 1-5, 15, and 17 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Taylor et al. U.S. Patent No. 3,901,425* in view of *Ueyama et al. U.S. Patent No. 4,102,483*. The remaining claims were rejected under 35 U.S.C. 103(a) as being unpatentable over *Taylor et al.* and *Ueyama et al.* and further in view of *Tomiyasu et al. U.S. Patent Application Publication No. 2005/0150883* (claim 6), *Bryce et al. U.S. Patent No. 4,187,411* (claims 7 and 10), *Bryce et al.* and *Parmelee et al. U.S. Patent 4,731,518* (claims 8 and 9), *Strybel U.S. Patent No. 4,458,719* (claims 11 and 12), *Strybel* and *Huismann et al. U.S. Patent No. 7,165,707 B2* (claim 13), or *G. Savard et al. U.S. Patent No. 2,964,612* (claim 14).

This rejection is respectfully traversed and reconsideration is expressly requested.

As set forth in claim 1 as amended, Applicants' invention provides a buffer device for a welding wire wherein a welding buffer storage is arranged between a wire feeder provided on the

welding apparatus, or an external wiring feeding means, and a further wire feeder arranged in the region of the welding torch, or within the welding torch and the welding wire is conducted between the two wire feeders within a wire core.

The wire buffer storage is designed in a manner that the wire core is fastened or fixed on one end with its other end being freely movable. The wire core together with the welding wire at least over a partial region is arranged to be freely movable within a wire guide hose extending in a helix-shaped or spiral-shaped manner and having substantially larger cross section or inner diameter than the cross section or outer diameter of the wire core. The storage volume of the wire buffer storage is defined by the cross section and length of the substantially larger wire guide hose.

As set forth in claim 15, Applicants' invention provides a welding plant including a welding apparatus, a hose package and a welding torch and a device designed as a wire buffer storage and arranged between two wire feeders. The hose package connects the

welding torch with the welding apparatus and the wire buffer storage is formed in or around the hose package.

The wire buffer storage is designed in a manner that the wire core is fastened or fixed on one end with its other end being freely movable. The wire core, together with the welding wire at least over a partial region, is arranged to be freely moveable within a wire guide hose extending in a helix-shaped or spiral-shaped manner and having a substantially larger cross section or inner diameter than the cross section or outer diameter of the wire core. The storage volume of the wire buffer storage is defined by the cross section and length of the substantially larger wire guide hose.

In this way, Applicants' invention provides a buffer device for a welding wire and a welding plant including such a device in which due to the helix-shaped or spiral-shaped arrangement of the wire guide hose, the length of the wire guide hose is enlarged in a manner that the wire buffer contents, i.e. the storage volume for the reception of surplus welding wire, will be substantially enlarged.

Contrary to the Examiner's position and as explained in Applicants' previous Amendment filed February 12, 2009, it is respectfully submitted that the primary reference to *Taylor et al.* fails to disclose or suggest a welding wire buffer as recited in Applicants' claims which enables the temporary storage of small amounts of welding wire during a reverse movement of the welding wire for short time spans without it being necessary to reverse the direction of rotation of both wire feeders, that is the wire feeder provided on the welding apparatus and the wire feeder arranged in the region of the welding torch.

In the wire moving apparatus according to *Taylor et al.*, the same amount or same length of welding wire is always arranged within the cable assembly 16 between the wire feeder 14 and the wire feeder 18. It is not possible to change the length of the welding wire within the flexible cable assembly 16 of *Taylor et al.* As previously mentioned, according to *Taylor et al.*, it is necessary to reverse the direction of rotation of both feeding mechanisms in the wire feeder assembly 14 as well as the gun assembly 18 to enable a movement of the welding wire against the normal conveyance direction. The flexibility of the cable

assembly 16 makes it easier to manipulate the welding torch 20 together with the gun assembly 18, but it is not possible to vary the length of the welding wire 12 within the flexible cable assembly 16 by changing the position of flexible cable assembly 16. The construction of the cable assembly 16 as can be seen from FIG. 2 of *Taylor et al.* ensures a good flexibility and an easy movement of the welding wire 12 within the plastic hollow liner 98. The slight movability of the plastic hollow liner 98 within the rotating sheet 96 does not form a wire buffer storage as recited in Applicants' claims. If the amount or length of welding wire 12 within the cable assembly 16 of *Taylor et al.* were to change, the length of the hollow liner 98 surrounding the welding wire 12 would have to change its length as well. Apart from slight movements of the plastic hollow liner 98, there is no possibility that the length of the plastic hollow line 98 as well as the length of the welding wire 12 can be changed within the cable assembly 16 of *Taylor et al.*

Therefore, it is respectfully submitted that *Taylor et al.* fails to disclose or suggest Applicants' buffer device for a welding wire and welding plant containing same having the

structure set forth in Applicants' claims 1 and 15. Specifically, there is no disclosure or suggestion in *Taylor et al.* of forming a welding wire buffer within *Taylor et al.*'s cable assembly 16.

The defects and deficiencies of the primary reference to *Taylor et al.* are nowhere remedied by the secondary reference to *Ueyama et al.* *Ueyama et al.* simply discloses a method for feeding a welding wire in which a welding wire 48 supplied normally in a curved state is guided through a wire guide bore 34 of a conduit cable 26 and fed in a spiral fashion along the inner surface of the wire guide bore 34. There is no disclosure or suggestion of a welding wire buffer that enables the temporary storage of small amounts of welding wire during a reverse movement of the welding wire for short time spans without having to reverse the direction of the rotation of both wire feeders, namely the wire feeder provided on the welding apparatus and the wire feeder arranged in a region of the welding torch.

The remaining references to *Tomiyasu et al.*, *Bryce et al.*, *Parmalee et al.*, *Strybel*, *Huismann et al.* and *G. Savard et al.* have been considered but are believed to be no more relevant. None of these references discloses or suggests a welding wire buffer as recited in Applicants' claims which enables the temporary storage of small amounts of welding wire during a reverse movement of the welding wire for short time spans without it being necessary to reverse direction or rotation of both wire feeders.

Accordingly, it is respectfully submitted that claims 1 and 15, together with claims 2-14 and 17 which depend directly or indirectly on claim 1, are patentable over the cited references.

In view of the foregoing, withdrawal of the final action and allowance of this application are respectfully requested.

Respectfully submitted,
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